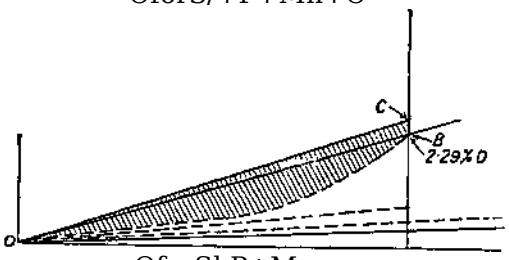
Herefrom the quantity of slag may be ascertained thus:—
Hypothetical silicate slag (vide 40) 2-13x4'78=10-18 per cent. PKosphate slag (vide 35) Q-39x2-58= l/OO
Total slag (on weight of charge) 11-18 per cent.
A good final slag should (vide 37) contain 10 per cent, iron ; thus in the final slag under consideration, there must be contained 1*118 per cent. Fe, with which there must be combined (vide 36) ril8xO'29=0-32 per cent. 0 (taken on weight of charge),
Thus the total amount of oxygen given up by the furnace gases is
In eliminating impurities . . .2-29 per cent. In oxidation of iron itself . . .0*32 „
Total (based on weight of charge) . 2-61 per cent.
One sees that the furnace action is quite considerable. Of the same 2*29 per cent., or 88 per cent, of the total action of the furnace gases, is devoted to changing the composition of the metal, and only 0*29 per cent., or 12 per cent, of the total action, was not used for the essentially refining process. If one takes the " chargedure " as abscissa, and the amounts of oxygen taken up as ordinates in a system of co-ordinates, one obtains the diagram below : —
(2>6I%0 - rn I ^^*~ Total 0
' ^^^"OforS/+P+Mn+C



_____• OforShP+Mn
or0rs;+p
0 for Si
Fra. 11.
The upper line 00 gives the total amount of oxygen transferred, whilst the under line OB shows how much oxygen has been brought into use in changing the composition of the metal. The latter line will actually probably have taken